

The Canadian Entomologist.

VOL. XLIX.

LONDON, OCTOBER, 1917

No. 10

POPULAR AND PRACTICAL ENTOMOLOGY.

THE APPLE MAGGOT IN BRITISH COLUMBIA.

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Two adult flies of the Apple Maggot or Railroad Worm, (*Rhagoletis pomonella* Walsh) were taken at Penticton, B.C., by the author on July 26th, 1916. Inasmuch as this record constitutes the first of its kind for the Province of British Columbia, and exists practically as an original record for the Pacific Coast of North America, it is of interest and of importance. I am indebted to Dr. J. M. Aldrich for his final determination of the species.

On July 26th, 1916, while visiting the orchards in the flat land lying between Okanagan Lake and Dog Lake, at a point about two miles south of Penticton, B.C., I was attracted by the appearance of some trees suffering from a pathological trouble (Baldwin Spot). While standing among the trees in the orchard I noted an adult Trypetid fly settle on a leaf. The specimen was captured in a hand net, and examination showed a strange resemblance to the Apple Maggot (*R. pomonella*). I was so struck by the resemblance that I endeavored to find other specimens. After an hour's search I was only rewarded by capturing a second adult.

The flies were later referred to Dr. C. Gordon Hewitt, who concurred as to their identity, but who suggested that they be forwarded to Dr. Aldrich for final determination. Dr. Aldrich duly certified to the fact that the specimens were adults of the Apple Maggot, *R. pomonella*.

The variety of apple tree upon which the flies were taken was the Red Astrachan variety, but examination of its fruits and the fruits of other early varieties in the vicinity, on July 26th and on a subsequent occasion in August, revealed no definite sign of larval

injury. Many early varieties of apple had been picked and shipped at the time of the second examination. Consequently this fact, coupled with the lateness of the season which was towards the end of the flight period of the adults, probably accounts for the paucity of material.

So far as the distribution of this species of fly on the Pacific coast is concerned, I am indebted to Dr. J. M. Aldrich and to Mr. Henry H. Severin for drawing my attention to some of the following records: Five specimens were collected by Mr. O. T. Baron, in the southern part of the State of California. These were described by Snow as *Rhagoletis zephyria*, n. sp., (Kansas Univ. Quart., II, No. 3, pp. 164-165) in 1894. R. W. Doane, in 1898 (Ent. News, IX, p. 69), and J. M. Aldrich in 1909, (Can. Ent., XLI, p. 69) state that *R. zephyria* is a synonym of *R. pomonella*. Since the record of 1894, apparently, no further remarks on its existence have been made in California. Dr. Aldrich further states, in correspondence, that his cards show that the insect has been recorded from the eastern slope of Colorado (Colorado Springs, Fort Collins). No information is available that the species exists in the State of Oregon, but Dr. A. L. Melander (Bull. No. 103, Wash. Agr. Exp. Sta., Dec. 1911) states that it "has been recorded as destructive along the eastern border" of the State of Washington. He remarks, however, that there is no positive evidence of its occurrence in Washington orchards.

Consequently the record for British Columbia stands very nearly as a unique one for the Pacific Coast. Fortunately it evidently does not exist in numbers at present in British Columbia, otherwise its presence would have been observed on earlier occasions. Even yet no definite form of larval injury has been observed, and the record, thus far, exists only in the form of the capture of two adult flies. It is interesting to note, however, that Mr. E. H. Strickland, Field Officer, Entomological Branch, Dominion Department of Agriculture, captured a single specimen of this fly at Lethbridge, Alta., in 1914. There is little doubt that the insect emerged from imported fruit, and as the Province of Alberta is supplied more commonly with western fruit than eastern, the record suggests an interesting probability.

LECTOTYPES OF THE SPECIES OF HYMENOPTERA
(EXCEPT APOIDEA) DESCRIBED BY ABBÉ
PROVANCHER.

BY A. B. GAHAN AND S. A. ROHWER, BUREAU OF ENTOMOLOGY,
WASHINGTON, D.C.

(Continued from page 308.)

Bæoneura arietina. Type.—Yellow label 1380. 2nd Coll. Pub. Mus., Quebec. Badly glued.

Banchus caudatus. Type.—Female, yellow label 1298. 2nd Coll. Pub. Mus., Quebec.

Banchus ferrugineus. Type.—Yellow label 385. 1st Coll. Pub. Mus., Quebec.

Banchus flavovariegatus. Type.—Female, yellow label 311. 2nd Coll. Pub. Mus., Quebec. Female, yellow label 379. 1st Coll. 2 other specimens.

Banchus formidabilis. Type.—Yellow label 378. 2nd Coll. Pub. Mus., Quebec. Antennæ at apex, median tarsi at apex, right hind tarsi entirely, gone.

Banchus inermis. Type.—Female, yellow label 313. 2nd Coll. Pub. Mus., Quebec: 3 specimens in 1st Coll.

Banchus insignis. Type.—Male, yellow label 387. 1st Coll. Pub. Mus., Quebec. Right anterior tarsus, left median tarsus at 2nd joint, left hind tarsus and right at metatarsus, right median leg, broken off.

Banchus pallescens. Type.—Male, yellow label 386. 1st Coll. Pub. Mus., Quebec. Left antenna at 5th joint, left fore leg and right hind leg gone.

Banchus polychromus. Type.—Female, yellow label 1551. 2nd Coll. Pub. Mus., Quebec.

Basalys ruficornis. Type.—Yellow label 913. 2nd Coll. Pub. Mus., Quebec.

Bassus aciculatus. Type.—Female, yellow label 1565. 2nd Coll. Pub. Mus., Quebec. Lacks most of antennæ.

Bassus albicornis. Type.—Not in Pub. Mus., Quebec. unless under name, *B. orbitalis* Cress.

Bassus amœnus. Type.—Not in Pub. Mus., Quebec, unless under name, *B. orbitalis* Cress.

Bassus areolatus. Type.—Not in Pub. Mus., Quebec, unless under name, *Lampronota punctulata* Cress.

Bassus auriculatus. Type.—Not located.

Bassus belangeri. Type.—Female, yellow label 709. 2nd Coll. Pub. Mus., Quebec.

Bassus bouleti. Type.—Not in Pub. Mus., Quebec, unless under name, *Erronemus pedialis* Cress.

Bassus cingulatus. Type.—Female, yellow label 985. 2nd Coll. Pub. Mus., Quebec.

Bassus costalis. Type.—Female, yellow label 453. 2nd Coll. Pub. Mus., Quebec. Some legs gone.

Bassus cylindricus. Type.—Male, yellow label 103(s) and 1246 (Prov.) 2nd Coll. Pub. Mus., Quebec. Lacks left antenna.

Bassus dorsalis. Type.—Female, blue label 195(s); yellow label 1247. 2nd Coll. Pub. Mus., Quebec. Apices of antennæ gone.

Bassus elongatus. Type.—Male, yellow label 694. 2nd Coll. Pub. Mus., Quebec.

Bassus fuscitarsus. Type.—Male, yellow label 349. 2nd Coll. Pub. Mus., Quebec.

Bassus humeralis. Type.—? yellow label 448. 1st Coll. Pub. Mus., Quebec. Abdomen wanting. Sex not determined. One male, yellow label 348, same species, in 2nd Coll. Species described from one female.

Bassus ichneumonoides. Type.—Species badly confused, impossible to choose lectotype.

Bassus longicornis. Type.—Yellow label 932. 2nd Coll. Pub. Mus., Quebec.

Bassus mellipes. Type.—Female, yellow label 1656. 2nd Coll. Pub. Mus., Quebec. Badly mounted, antennæ gone.

Bassus pallipennis. Type.—Female, yellow label 1021. 2nd Coll. Pub. Mus., Quebec.

Bassus pectoralis. Type.—Yellow label 449. 1st Coll. Pub. Mus., Quebec. Lacks abdomen and antennæ.

Bassus pulchripes. Type.—Male, yellow label 446. 1st Coll. Pub. Mus., Quebec. Lacks apex of right antenna.

Bassus saginatus. Type.—Female, yellow label 533. 2nd Coll. Pub. Mus., Quebec.

Bassus scapulatus. Type.—Female, yellow label 994. 2nd Coll. Pub. Mus., Quebec.

Blacus cuneatus. Type.—Female, yellow label 1592. 2nd Coll. Pub. Mus., Quebec. Antennæ broken at tip.

Blacus defectuosus. Type.—Female, yellow label 1287, blue label 734. 2nd Coll. Pub. Mus., Quebec. Antennæ broken about 10th joint.

Blacus longicaudus. Type.—Yellow label 1282, blue label 710. 2nd Coll. Pub. Mus., Quebec. Head and fore legs missing.

Blennocampa paupera.—See *Selandria*.

Blepharipus cinctipes. Type.—Male, yellow label 957. 2nd Coll. Pub. Mus., Quebec.

Blepharipus nigricornis. Type.—Male, yellow label 1448. 2nd Coll. Pub. Mus., Quebec.

Brachistes crassigaster.—See *Calyptus*.

Brachistes submucronatus.—See *Calyptus*.

Bracon æqualis. Type.—Female, yellow label 551. 2nd Coll. Pub. Mus., Quebec. Apices of antennæ gone.

Bracon angelesius. Type.—Female, blue label K(s), white label 25(s), yellow label 1486. Head and wings except left hind wing, gone.

Bracon apicatus. Type.—Female, yellow label 554. 2nd Coll. Pub. Mus., Quebec. Lacks ovipositor, apices of antennæ and some tarsi.

Bracon auripes. Type.—Female, blue label 670, yellow label 1571. 2nd Coll. Pub. Mus., Quebec. Right wings and head gone.

Bracon inquisitor. Type.—Female, yellow label 536. 2nd Coll. Pub. Mus., Quebec. Lacks flagella and right wings.

Bracon lævis. Type.—Female, yellow label 537. 2nd Coll. Pub. Mus., Quebec. Lacks flagella and left wings.

Bracon longicaudis. Type.—Yellow label 602. 2nd Coll. Pub. Mus., Quebec. Two specimens on same pin, top one female lacks antennæ, other one probably male, lacks abdomen and part of antennæ.

Bracon lutus. Type.—Yellow label 552. 2nd Coll. Pub. Mus., Quebec.

Bracon nanus. Type.—Female, yellow label 725. 2nd Coll. Pub. Mus., Quebec.

Bracon nigripectus. Type.—Female, yellow label 553. 2nd Coll. Pub. Mus., Quebec. Apices of antennæ gone.

Bracon nigripes. Type.—Female, yellow label 1261. 2nd Coll. Pub. Mus., Quebec.

Bracon nitidus. Type.—Male not in Coll. Female, allotype, yellow label 1026. 2nd Coll. Pub. Mus., Quebec. Female, paratype, yellow label 104. 2nd Coll. Pub. Mus., Quebec.

Bracon obliquus. Type.—Female, yellow label 541. 2nd Coll. Pub. Mus., Quebec. Dirty.

Bracon ornatus.—See *Iphiaulax*.

Bracon pilosipes.—Type.—Male, yellow label 1655, (also round, faded orange disk). 2nd Coll. Pub. Mus., Quebec.

Bracon politus. Type.—Cat. No. 1969, U. S. N. M.

Bracon pygmæus. Type.—Female, mica tag, yellow label 555. 2nd Coll. Pub. Mus., Quebec.

Bracon rufovariegatus. Type.—Male, yellow label 605. 2nd Coll. Pub. Mus., Quebec. Female allotype without label.

Bracon sanguineus. Type.—Cat. No. 1968, U. S. N. M.

Bracon striatus. Type.—Male, yellow label 724. 2nd Coll. Pub. Mus., Quebec.

Callimome fagopirum. Type.—Yellow label 917. 2nd Coll. Pub. Mus., Quebec. Fair.

Callimome longicauda. Type.—Yellow label 1019. 2nd Coll. Pub. Mus., Quebec. Fair.

Calyptus crassigaster. Type.—Female, yellow label 1300. 2nd Coll. Pub. Mus., Quebec. Dirty.

Calyptus submucronatus. Allotype.—Female, yellow label 569. 2nd Coll. Pub. Mus., Quebec. Antennæ missing. Type male not located.

Campoplex carinatus. Type.—Female, yellow label 294. 2nd Coll. Pub. Mus., Quebec.

Campoplex flavipennis. Type.—Not in Pub. Mus., Quebec, unless under *Opheletes glaucopterus* Linn. Three specimens 2nd Coll., 2 in 1st Coll.

Campoplex lucens.—See *Mesoleptus*.

Campoplex luctuosus. Type.—Female, yellow label 335. 1st Coll. Pub. Mus., Quebec. Head and left fore leg entirely gone.

Campoplex marginatus.—See *Limnerium*.

Campoplex minor. Type.—Female, yellow label 293. 2nd Coll. Pub. Mus., Quebec. Antennæ gone.

Campoplex niger. Type.—Female, yellow label 1220. 2nd Coll. Pub. Mus., Quebec. Badly broken.

Campoplex nigripes. Type.—Not in Pub. Mus., Quebec, unless under *C. laticinctus* Cress. Female, 2nd Coll., female 1st Coll.

Campoplex politus.—See *Exolytus*.

Campoplex scularius. Type.—Female, yellow label 1219. 2nd Coll. Pub. Mus., Quebec.

Campoplex semirufus. Type.—Female, yellow label 1024. 2nd Coll. Pub. Mus. Quebec. Antennæ, one at scape, the left at 3rd joint, middle tarsi at 2nd joint, right hind tarsus and last joint of left hind tarsus gone; abdomen broken off, stuck on pin below specimen. Allotype not located.

Campoplex unicolor.—See *Mesoleptus uniformis* Prov.

Campoplex vicinus. Type.—Female, yellow label 291. 2nd Coll. Pub. Mus., Quebec.

Camptotera clavata. Type.—Not at present in Coll. Sent to Girault, June, 1911.

Capitonus rubriceps. Type.—Female, blue label 721(s), yellow label 1279. 2nd Coll. Pub. Mus., Quebec.

Capitonus rugosus. Type.—Female Cat. No. 21433 U.S. N.M. Lacks fore wings and antennæ. Male, allotype, blue label 606, yellow label 1255. 2nd Coll. Pub. Mus., Quebec. Lacks apex of left antenna.

Centeterus tuberculifrons. Type.—Female, yellow label 249. 1st Coll. Pub. Mus., Quebec. Some verdigris.

Cephus bicinctus.—See *Phyllæus*.

Cephus interruptus. Type.—Female, yellow label 1542. 2nd Coll. Pub. Mus., Quebec. Head gone.

Ceratosoma rufus. Type.—Female, yellow label 377. 1st Coll. Pub. Mus., Quebec. Antennæ broken at apex.

Cerceris æqualis. Type.—Cat. No. 1974 U. S. N. M.

Ceropales minima. Type.—Male, blue label 124(s), yellow label 1420. 2nd Coll. Pub. Mus., Quebec.

Ceropales superba. Type.—Harrington Coll. Paratype, yellow label 766. 2nd Coll. Pub. Mus., Quebec.

Ceroptres dorsalis. Type.—White label 56; white label 71(s); yellow label 1595. 2nd Coll. Pub. Mus., Quebec.

Charitopus facialis. Type.—Harrington Coll.

Charops fuscipennis. Type.—Female, Cat. No. 1967 U. S. Nat. Mus. Right antenna broken; right hind tarsi gone; right wings glued on label.

Chelonus argentifrons. Type.—Male, yellow label 1304. 2nd Coll. Pub. Mus., Quebec. Apices of antennæ gone.

Chelonus basicinctus. Type.—Female, yellow label 906. 2nd Coll. Pub. Mus., Quebec. Left flagellum and apex of right gone.

Chelonus carinatus. Type.—Female, yellow label 907. 2nd Coll. Pub. Mus. Quebec., Apex of left antenna gone. Specimen rather dirty.

Chelonus fissus. Type.—Male, yellow label 598. 2nd Coll. Pub. Mus., Quebec.

Chelonus nanus. Type.—Male, yellow label 908. 2nd Coll. Pub. Mus., Quebec.

Chelonus rufiscapus. Type.—Female, yellow label 1303. 2nd Coll. Pub. Mus., Quebec.

Chiloneurus maculatipennis. Type.—Harrington Coll.

Chorinæus pulchripes. Type.—Female, yellow label 1025. 2nd Coll. Pub. Mus., Quebec.

Chrysis aurichalcea. Type.—Not located.

Chrysocharis viridis. Type.—Harrington Coll. Fair.

Cinctus nasutus. Type.—Blue label 769; yellow label 1328. 2nd Coll. Pub. Mus., Quebec.

Cleonymus superbus. Type.—Yellow label 1601. 2nd Coll. Pub. Mus., Quebec. Fair.

Cleptes americana. (preoc.) = *provancheri* Aaron. Type. —Not in Quebec. May be in Philadelphia.

Clistopyga canadensis. Type.—Female, yellow label 396. 2nd Coll. Pub. Mus., Quebec.

Clistopyga truncata. Type.—Female, yellow label 1001. 2nd Coll. Pub. Mus., Quebec.

(To be continued.)

NEW NORTH AMERICAN SPECIES OF DOLICHOPODIDÆ
(DIPTERA).

BY M. C. VAN DUZEE, BUFFALO, N. Y.

Sympycnus fasciventris, n. sp.

Runs in the table of species in the Entomological News, Vol. 24, p. 270 to No. 10 where it would form a third item which would read: "Whole of hind tibiæ and base of hind tarsi yellowish."

Male.—Length 3-mm. Eyes meeting on the face, leaving only a long, slender triangle below the antennæ which is covered with white pollen; palpi small, whitish; front wide, brown, covered with gray pollen; cilia of the lower orbits short, black; antennæ (Fig. 28, A) black, first and second joints short and with the usual bristles at tip of second joint, the longest about equal to the length of the joint; third joint fully as long as the first two together, triangular, with a sharp point, about twice as long as the width at base, fringed with rather long, crooked hairs; arista inserted near the base, pubescent, nearly twice as long as the antennæ; eyes pubescent. Thorax rather pale brown with grayish pollen,

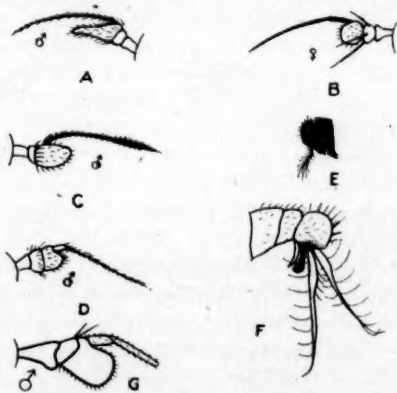


Fig. 28—A. *Sympycnus fasciventris* sp. nov., antenna of male.
B. *Nothosympycnus inornatus* sp. nov., antenna of female.
C. *Nothosympycnus inornatus* sp. nov., antenna of male.
D. *Sympycnus caudatus* sp. nov., antenna of male.
E. *Sympycnus lineatus* Loew, hypopygium.
F. *Sympycnus caudatus* sp. nov., hypopygium.
G. *Nothosympycnus abbreviatus* sp. nov., antenna.

which is thickest on the pleuræ, sides of the dorsum and space before the scutellum; scutellum slightly darker than the dorsum, and with two strong bristles inserted at the sides. Abdomen bronze brown, shining, with the apical half of segments three to six pale verdigris-green, first and second segments of the same colour on the sides, the green nearly meeting on the dorsum of the second along the hind margin; venter dark brown, paler towards the base; hairs of the abdomen black except a few on the sides of the first and second segments; hypopygium small, forming a rounded tip to the abdomen and without visible appendages. Fore coxæ yellow with abundant, rather long, pale hairs on the front surface; middle and hind coxæ black with yellow tips, hind pair with a pale bristle and two pale hairs on the outer surface, middle pair with pale hairs. Legs yellow; hind femora darker above; fore tarsi short, scarcely as long as their tibiæ, darkened towards the apex, last two joints black; fore pulvilli enlarged; middle tarsi slender, a little longer than their tibiæ; middle tibiæ with two bristles near the base and one near apical third; hind tarsi stout, infuscated from the tip of the second joint, about four-fifths as long as their tibiæ, first and second joints subequal. Halteres and tegulæ pale yellow, tegular cilia pale. Wings grayish hyaline with the fourth vein ending in the apex of the wing.

Described from a single male taken at Fulton, St. Cruz Mts., Cal., (300 feet), May, by Dr. J. C. Bradley.

Type in the Cornell University collection.

The wings in the type are in very poor condition. The species can easily be recognized by the slender third antennal joint, small hypopygium with its small appendages, and the colour of the feet.

***Sympycnus caudatus*, n. sp.**

Runs in the keys to N. Am. species to *S. lineatus* Loew, but is distinguished by the longer hypopygial appendages, colour of the thorax and the modified fore tarsi. (Fig. 28, E, *lineatus*; F, *caudatus*.)

Male.—Length 2-3 mm. Eyes meeting so as to obliterate the face; antennæ (Fig. 28, D) small, first and second joints yellowish, third joint black, slightly pointed, scarcely as long as wide; arista dorsal, inserted near the base of the third joint, rather long and

slender, pubescent; front and thorax bronze brown, shining, slightly dulled with brown pollen; pleuræ with whitish pollen. Abdomen dark bronze brown with more or less purple reflections towards the tip; venter yellowish, which colour extends more or less to the dorsum at the base; hypopygium brown, rounded and conspicuous, with minute white pubescence and a few black bristles; outer appendages long yellow filaments which are ciliate with long hairs placed at regular intervals (F), inner appendages black, club-shaped. Fore coxæ yellow, nearly bare but with a few bristles near the tip; middle and hind-coxæ black with the extreme tips yellow; legs yellow; last three joints of fore and hind tarsi and the middle tarsi from the tip of the first joint infuscated; hind femora more or less darkened at the tip; first joint of fore tarsi about as long as the remaining four and with several bristles towards the tip, second joint longer than any of the following, enlarged below, last three joints of nearly equal length, third joint contracted at base; fore pulvilli not enlarged; middle tarsi slender, about one and one-half times as long as their tibiæ; first joint distinctly shorter than the four remaining joints together; first joint of hind tarsi shorter than the second. Halteres yellow; cilia of the tegulæ pale. Wings brownish hyaline; fourth vein ending in the apex of the wing.

Described from six males from Wild Cat Canyon, San Pablo, Contra Costa Co., Cal., taken Nov. 16th by J. C. Bradley.

Type in the Cornell University collection.

***Sympycnus canadensis*, n. sp.**

Male.—Length 2 mm., length of wing the same. Face silvery white, black just below the antennæ, rather wide for a male, narrowed below; palpi brown; front almost black with violet reflections, shining; antennæ black, third joint triangular, as long as the width at base; arista dorsal, pubescent. Thoracic dorsum violet in the centre, more coppery on the sides with considerable brown pollen on the front sides, and with a large, velvety black spot on each side above and in front of the root of the wings, the sloping posterior portion and the scutellum bright green; pleuræ blackish with gray pollen. Abdomen dark green, shining, with the venter and most of the second and third segments yellow,

clothed with pale hairs; hypopygium small, black with small, black lamellæ. Coxæ and legs yellow; top edge of hind femora on apical half, hind tibiæ and tarsi wholly and last two joints of fore and middle tarsi black; fore coxæ with prominent black bristles on the front surface; middle and hind coxæ each with a large, black bristle on the outer side; fore tibiæ with a bristle on top near the base and several small ones; middle and hind tibiæ each with two bristles on top, one at basal fourth and one near the middle, and several at tip; fore tarsi a little longer than their tibiæ, the first joint nearly as long as the remaining four together, second a little longer than the third, fourth and fifth about equal in length; pulvilli not at all enlarged; middle tarsi as long as their tibiæ; hind tarsi shorter than their tibiæ, the first joint very little shorter than the second. Tegulæ, their cilia and the halters yellow. Wings grayish hyaline, rather dark; fourth vein ending in the apex of the wing; posterior cross-vein nearly three times its length from the tip of the fifth vein; veins black.

Described from two males which I took at Ft. Erie, Ont., June 6th. Type in the author's collection.

This species would run in the table of species in the Ent. News, Vol. 24, p. 270, to *S. angustipennis* Ald., but that species has yellow antennæ, yellow appendages to the hypopygium, and has the legs and feet entirely yellow except the last tarsal joint.

***Nothosympycnus inornatus*, n. sp.**

Male.—Length 2.5–3 mm. Face very narrow, covered with gray pollen; front and thorax metallic brown with a greenish lustre and dulled with yellowish brown pollen; antennæ (Fig. 28,C) black, third joint large, oval, rounded at tip; arista inserted near the base of the third joint and thickened towards the apex, pubescent; scutellum blue-green. Abdomen shining black on the dorsum, especially towards the apex; venter yellow, which colour extends more or less to the dorsum at the base; hypopygium small, black, its appendages inconspicuous. Fore coxæ yellow with yellow hairs towards their tips; hind coxæ with a pale bristle on the outer side. Legs yellow, hind femora and tibiæ darkened at tips; tarsi becoming black towards their tips; first joint of fore tarsi very short, not much longer than thick, second joint three-

fourths as long as the tibiae and nearly as long as the third and fourth together, third and fourth of equal length, fifth distinctly shorter than fourth; middle tibiae with several slender bristles (the specimens before me have from one to four, they seem to be easily broken off); middle tarsi about as long as their tibiae, the first joint longer than the remaining four, second nearly as long as the three following and distinctly widened at tip, third and fourth about equal in length and somewhat widened, fifth slender, nearly as long as the preceding two together; hind tarsi scarcely as long as their tibiae. Tegulae, their cilia, and the halteres yellow. Wings brownish hyaline; fourth vein ends in the apex of the wing; anal angle prominent.

Female.—Face wide; thorax more opaque brown; third antennal joint (Fig. 28,B) smaller, about as long as broad, rounded at tip; middle tibiae with several bristles as in the male.

Described from seven males and several females taken by J. C. Bradley, in Wild Cat Cn., San Pablo, Contra Costa Co., Cal., May 20th–25th.

This is very much like *vegetus* Wheeler but the thickening of the arista is not close to the tip as in that species, nor so conspicuous; the relative lengths of the joints of the fore tarsi are also different, and the anal angle of the wing is more prominent.

***Nothosympycnus abbreviatus*, n. sp.**

Male.—Length 3 mm. Face narrow with silvery white pollen; palpi yellowish; proboscis brown; front bluish but thickly covered with brown pollen so as to conceal the ground colour except on the sides; antennae brown, third joint, about as long as wide, somewhat rounded at tip; (Fig. 28, G) arista very short, blunt at tip, scarcely as long as the antennae (apparently broken off). Thorax brown, nearly opaque; pleurae black. Abdomen yellowish above at base, beyond the hind margin of the second segment it is black above, somewhat bronzed at tip; venter yellow which colour extends up on the sides of the third and fourth segments; hypopygium and its appendages small. Coxae yellow; fore pair with a silvery lustre and minute pale hairs on the front surface and a few yellowish bristles at tip; middle and hind coxae with a black bristle on the outer surface; femora yellow, the hind pair darkened above at

tip; middle and hind femora each with a small bristle close to the apex; tibiae pale yellow, the posterior pair darkened at tip and with a very slender but rather long bristle below just before the basal third and several other small bristles; middle tibiae with two bristles; fore tarsi yellow, darkened towards the tip, first joint not longer than thick, second joint more than half as long as the tibiae, third a little longer than the fourth, fourth scarcely longer than the fifth; hind tarsi blackened from the tip of the first joint which is shorter than the second. Halteres yellow. Wings grayish hyaline, rather narrow at base; fourth vein ending in the apex of the wing; last section of fifth vein three times as long as the cross-vein; veins yellowish brown, costa darker.

Described from one male taken in Douglas Co., Kansas. Type in the collection of the University of Kansas.

This is one of a group of four species which are somewhat related, the antennae being formed about alike in all. The third joint of this species is a little wider in proportion than in the others and the apex more flattened, giving it a quadrate appearance, and the arista is short and blunt (if it has not been broken off). In *frontalis* Loew the arista is slender and tapers to a point; in *vegetus* Wheeler it terminates in a very small lamel, while in *inornatus*, n. sp., it is gradually thickened but still ends in a point. In *frontalis* the fourth joint of the fore tarsi is longer than the third, in *vegetus* the joints of fore tarsi are of decreasing length from the second to the fifth, in *abbreviatus* the third is longer than the fourth but the fifth is not much shorter than the fourth, while in *inornatus* the third and fourth are of nearly equal length, and the fifth is distinctly shorter.

THE SPECIES OF ARGYNNIS IN AMERICA.

BY HENRY SKINNER, PHILADELPHIA.

Recently I received a letter from Mr. Charles Oberthür, of France, in which he says: "In the European collections there is a great perturbation and confusion in the knowledge and determination of the American species of the genus *Argynnis*. The light is very desirable but hard to obtain." The European entomologists are not alone in finding our species extremely difficult, as

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they are extremely difficult for us. Confusion has arisen from synonymy, loss of types and lack of knowledge as to what is a species or variety in the genus, lack of accurate data, types not fixed or inaccurately fixed, plastic or variable forms, and specimens only accidentally received through the wanderings of collectors or the accidental habitat of collectors. There are some things that must be done before we can come to a rational understanding of these butterflies. First—a single specimen must be fixed as a type to establish the correct name each species or variety is to bear. Second—to delimit the range of variation of each species. To do this large series must be studied, and they should have exact locality, date of capture and altitude where taken.

Herman Strecker¹ pointed out the difficulties in 1878. He had an excellent idea of the specific relationships of the forms or species.

H. J. Elwes² wrote a revision of the species of the world in 1889, and related his experience in trying to get some rational idea of the American species.

Wm. H. Edwards³ wrote a reply and gave notes on the above revision, and a perusal of both articles gives one an idea of the great confusion and difference of opinion in regard to these insects.

A. J. Snyder⁴ in 1900, wrote a revision of our American species, and gave some valuable information in relation to the forms of *eurynome* Edw., derived from extensive field work in Utah and Colorado.

Dr. W. J. Holland gave a series of exceedingly useful illustrations in the Butterfly Book, but in many instances only figured the upper sides of the species, and there is no way of telling whether they represent types or the contrary.

W. G. Wright, in his Butterflies of the West Coast, figures many species, but many of his determinations are erroneous and only lead to confusion.

Mr. Charles Étuerthür, in his *Études Sèp. Comparée* has given some beautiful figures of the Boisduval species and has

1. Beetles and Moths of N. Am., 1878, p. 118.

2. Trans. Ent. Soc., London, 1889, p. 535.

3. Can. Ent., 1890, p. 81.

4. Occasional Memoirs, Chicago Ent. Soc., 1900, p. 27.

helped disentangle the great confusion in the Californian species. Dr. Barnes and McDunnough, in their contributions, have added much to our knowledge of some of the species.

There are some things that are imperatively necessary. A single type (holotype) should be fixed for all of Edwards' species in Dr. Holland's collection in the Carnegie Museum in Pittsburg, and these should be selected in relation to the type locations and specimens mentioned in the original descriptions. Strecker says that Dr. Behr sent him the types of *coronis*, *montivaga*, *rupestris* and *monticola*. Single types should be selected for these four species. The Strecker collection is in the Field Museum in Chicago. We need to know more definitely about Dr. Boisduval's types. Mr. Edwards says⁵ that all of Boisduval's types were sent to him and that they were in his collection. There are many confusing things in the literature in regard to types and other matters.

Dr. Holland says the types of *columbia* Hy. Edw. are in his collection, whereas the type or types are supposed to be in the American Museum of Natural History in New York.

The importance of single type fixation is shown by these citations. A concrete example is as follows: Mrs. Edwards says the types of *A. chitone* are from South Utah and the Weber Mountains (Can. Ent., 1890, p. 83), Drs. Barnes and McDunnough (Contributions, No. III, p. 75) say the Weber Mountain specimens, 1 ♂, 3 ♀'s, represent a different species.

It is impossible to differentiate the species of *Argynnis* from descriptions alone, as while they may have a different facies it is very difficult to describe it in words. As nearly all the species have been well figured in one place or another we can now make progress as soon as the types are fixed. The difficulty of fixing names and relationships is shown by the following names and how they should be treated. Much more depends on the views of the individual student. Are they species topomorphs, varieties or what?—*mormonia*, *arge*, *erinna*, *bischoffi*, *opis*, *washingtonia*, *eurynome*, *clio*, *artonis*, *luski*. There must also be plenty of other variations of these in the many mountains not yet collected in.

5. Can. Ent., 1890, p. 82.

DESCRIPTIONS OF NEW CYNIPIDÆ

BY WM. BEUTENMÜLLER, NEW YORK.

Andricus castanopsidis, sp. nov.

Female.—Head jet black, finely wrinkled and with whitish hairs on the face. Antennæ long and slender, filiform, 14-jointed, 3rd—8th joints long, the 3rd longer than the others, 9th—14th joints short and not much thicker than the preceding joints, 1st and 2nd joints short and stout, 2nd shorter than the 1st; joints 1–8 rufous, 9–14 black. Thorax jet black and highly polished, microscopically wrinkled, under a high power lens, smooth to the naked eye, strongly arched on the summit. Parapsidal grooves broad and deep at the scutellum, gradually becoming narrower as they reach the collar. These grooves are parallel for their greater length, and converge shortly before their posterior ends. Median groove very faint and only visible in certain lights. Anterior parallel lines very fine and scarcely evident. Lateral grooves wanting. Scutellum black, reticulately rugose, with two very large, deep and glossy basal foveæ. Abdomen rufous, darker posteriorly, with the upturned sheath of ovipositor black. Legs rufous. Wings hyaline; radial area open, the subcostal vein not reaching the costa; cubitus not extending to the first cross-vein; areolet large. Length 4 mm. Antennæ 3 mm.

Gall.—On the blossoms of Western Chinquapin (*Castanopsis sempervirens* and *C. chrysophylla*) in May. Monothalamous. Brown, globular and exceedingly thin-shelled; the outer covering being skin-like. Internally it is filled with a soft, porous, pith-like substance. The round, central larval chamber is thin-shelled and firmly imbedded in the pithy part. The gall is probably green when fresh and very soft. Diameter 12–24 mm.

Habitat.—Pacific Grove, Monterey Co., Calif. (Miss Dorothy Egbert), galls and flies; Truckee, Calif. (H. G. Dyar), galls and flies, U. S. Nat. Mus.; Mt. Tamalpais, Calif. (L. H. Weld), galls; Placer, Co. (A. Koebele), galls.

A distinct species very much resembling a *Diastrophus* in general appearance. The point of attachment of the gall is very short, and when mature it drops to the ground. The male is unknown.

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Andricus myrtifoliae, sp. nov.

Female.—Pale, uniform yellowish brown, legs and antennae paler. Head opaque and finely punctate. Antennae 13-jointed, basal joints filiform, terminal ones stouter and much shorter. Thorax opaque, evenly and finely punctate. Parapsidal grooves fine, continuous and converging at the scutellum. Lateral grooves indistinct. Anterior parallel lines very fine. Median groove evident only for a short distance at the scutellum, wanting anteriorly. Pleurae wholly punctate. Scutellum opaque, finely rugoso-punctate, with two broad, deep, almost contiguous, basal foveae. Abdomen smooth and shining. Wings delicate, hyaline with the veins very faint. Radial area open at the costa. Cubitus continuous. Areolet not evident. Length 1-1.25 mm.

Gall.—In clusters on the blossoms of *Quercus myrtifolia* Monothalamous. Small, cone-shaped bodies, each containing a single larval cell. When dry the gall is dark brown or almost black. At the point of attachment it is flattened, and from this part it gradually tapers to a blunt point at the apex. Length 2.50-3 mm.

Habitat.—Jacksonville and Palat Ka, Fla. (Lewis H. Weld.) The galls of this species were collected by Mr. Weld in April, 1914, and the flies emerged in a paper package and were all dead when he unpacked his Florida material in July, 1914. Mr. Weld informs me that the galls looked about the same in colour when they were collected, but they may be greenish when they first appear. The male is black with pale, yellowish brown legs and antennae. The latter is 15-jointed, with all the joints stouter, the 3rd excavate beneath.

Andricus gemmiformis, sp. nov.

Female.—Head black, face very finely and minutely granulate, cheeks almost smooth. Antennae 13-jointed, brown, paler at the junctions of the joints in certain lights, four terminal joints black. Thorax rufous, with a broad, black band from the collar to a little beyond the middle, and a similar band outside the parapsidal grooves extending forward to beyond the middle. Finely and closely punctate, subopaque. Parapsidal grooves subparallel, continuous, sharply defined and not much wider apart at the

scutellum than at the collar. Lateral grooves distinct in the black area. Anterior parallel lines very narrow and not sharply defined. Median groove wanting. Scutellum rufous, rugose with two large, somewhat shining basal foveæ. Mesopleura rufous granulate. Metapleura black, smooth and shining. Abdomen globose, smooth and shining, rufous, darker dorsally. Legs rufous, posterior femora darker. Wings hyaline, veins fine. Radial area closed. Cubitus continuous. Areolet small. Length 2-2.50 mm.

Gall.—On the trunk of white oak (*Quercus alba*), May-October. Monothalamous. Green, sometimes tinged with red. Bud-shaped, elongate, pointed at the apex, thin-walled when mature and hollow inside and containing no separate larval chamber. When young it is more solid. Length 3-4 mm.

Habitat.—Fort Lee district, New Jersey; Woodlawn, New York City.

The gall is found on the trunk of large, white oak, where the same is gnarly and young shoots sprout forth. It is imbedded in a cavity and may be easily removed. The gall looks exactly like the bud of a young sprout, and may be readily mistaken for such and overlooked. I have found fully developed galls May 30th and in June, and also late in October, 1915. One female emerged in October, 1915, from a gall collected in May, 1915, and one female in May, 1916, from a gall taken in October, 1915. Mr. L. H. Weld has also taken the gall at Evanston, Illinois. The male is unknown.

***Andricus dugesi*, sp. nov.**

Female.—Head dark rufous with short, whitish hairs, face and vertex rather coarsely rugose, cheeks finely granulated. Antennæ 14-jointed, dark rufous. Thorax dark rufous, granulated with coarse, transverse wrinkles, giving the surface a rough appearance. Parapsidal grooves continuous, widely separated at the collar and converging at the scutellum, median groove continuous. Lateral grooves blackish and long. All these grooves are wrinkled. Anterior parallel lines smooth and extending to the middle of the thorax. Scutellum coarsely rugose, rufous with two large, blackish basal foveæ, almost lost in the rugosity of the surface. Pleura rugose. Abdomen rufous, smooth, with decumbent yellowish hairs. Legs rufous. Wings yellowish brown,

hyaline and pubescent. Veins dark brown. Radial area open, both veins very close to the costa. Cubitus continuous. Areolet very large. Length 4-5 mm.

Habitat.—Guanajuato, Mexico, Oct. 4, 1900. (A. Duges).

Allied to *Andricus cameroni* Ashmead, but differs in the larger size, the colour and sculpture of the thorax and in the wings being considerably more yellowish. It is one of the largest species of *Andricus*. The gall is not known. The types are in the U. S. Nat. Mus., and cotypes in my collection.

Biorhiza capulæformis Beutenmuller.

When I described this species under the name *Andricus capulæformis* (Ent. News, Vol. XXII, 1911, p. 69), I was under the impression that the wings had not been fully developed, because the dead example was cut from a gall. Mr. Lewis H. Weld collected many of the galls at Evanston, Illinois, early in October, 1916, at the base of red oak (*Quercus rubra*) shoots growing from a stump, and sent me many examples from which I cut at least fifty fine, living females, in October, 1916. Mr. Weld's specimens issued Nov. 23-26th, so the species seems to emerge late in fall. In all these the wings are abbreviated, consequently the species must be removed from the genus *Andricus* and placed in *Biorhiza*. The head and thorax are dark rufous, and the scutellum is black. The abdomen is large, globular, smooth and highly polished, black with the sides and junctions of the segments dark rufous. The legs are very long, dark rufous with the tibiæ infuscated, as are also the femora of the hind legs. It measures from 4-5 mm., in length, and the wings 2.50 mm. It very much resembles a queen ant, but it is sluggish in habit and feigns death at the slightest touch. When cut from the gall it emits a rather strong, fragrant odor. It is a fine species and may be the alternating form of some bisexual species. Possibly *Dryophanta lanata*.

Amphibolips nigra Beutenmuller.

Gall.—On the twigs of a species of oak; monothalamous; densely wooley and about the size of a small peach, and also somewhat the colour of this fruit, especially those on the trees suffering from peach-yellows, probably white when fresh and tinged with pink. It contains a hard, thick-shelled, oval cell about the size of a bean. Diameter 22-50 mm.

Habitat.—Durango, Mexico, (Dr. A. Palmer). The types are in the U. S. Nat. Mus., and cotypes in my collection. The adults emerged from January 30th to February 8th, 1897.

***Dryophanta floridensis*, sp. nov.**

Female.—Head black, evenly and finely granulate. Antennæ black, basal joints pale brown, 14-jointed. Thorax jet black, highly polished, microscopically punctate, more so anteriorly. Parapsidal grooves distinct, deep, continuous, widely apart at the collar, and about half as wide apart at the scutellum. Median groove wanting. Lateral grooves not sharply defined and scarcely evident. Anterior parallel lines not evident. Pleuræ subopaque, finely rugose, with a polished area. Scutellum black, rather strongly rugose, basal fovea large. Abdomen black, somewhat compressed, subtriangulate, smooth and polished. Legs pale brown. Wings hyaline, veins brown. Radial area closed. Cubitus continuous. Areolet minute. Length 2–2.25 mm.

Gall.—On the trunks of Spanish Oak (*Quercus digitata* and Blue Jack (*Quercus brevifolia*), that are six or more inches in diameter; in April. The gall is soft and fleshy and does not look like a gall at all. At the base of each sprout there is a rather large cell, which is covered with short, fuzzy, abortive leaflets. They occur in clumps and are dormant bud galls.

Habitat.—Ocala and Jacksonville, Florida, (Lewis H. Weld).

TWO UNNAMED CALIFORNIAN BUTTERFLIES.

BY FORDYCE GRINNELL, JR., PASADENA, CALIF.

***Strymon sylvinus desertorum* subsp. nov.**

♂.—Fore wings: upper side, mouse colour along the costal margin to below the cell, along the outer margin diminishing to the inner margin and basally where it is lightest; fulvous from the dark outer margin, fading gradually towards the base. Hind wings: upper side, light mouse colour basally and along the costal region; a darker band along the outer margin; grayish in the inner fold; a very distinct and light fulvous area in the anal region and along the outer margin diminishing towards the upper edge; two tails, black, tipped with white; fringes white. Under side: fore wings, ashy, a very faint discal spot, marginal line and row of spots barely

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discernible, followed by a heavier row of six black dots. Hind wings with a continuation of the inner row of heavy black dots, the last two heaviest; also the first row of spots or crescents between this and the margin. A large, distinct red patch in the anal angle and a smaller patch of blue or purple scales.

♀.—Similar to the male.

Expanse 32 mm.

Types.—One male and one female in the author's collection. Eleven topotypes. One or more topotypes will be deposited in the Barnes' collection.

Habitat.—Oak Creek, Kern County, California, June 29, 1905, collected by the writer. Oak Creek "flows" from the Tehachapi Mountains into the Mojave desert. The type locality is in semi-desert conditions, but about two miles further down are true desert conditions with the characteristic tree yuccas and other desert plants.

The male specimen selected as the type was sent to Dr. McDunnough, who returned it marked "A form of *syllvinus* close to *dryope* Edw." There are two or three specimens in the series with no fulvous on the upper sides of the wings; but the very lightly marked under side and peculiar light fulvous extension on the upper side mark this as a readily distinguishable desert race.

***Glaucopsyche behri australis*, subsp. nov.**

This Southern Californian race of *behri* (Edwards) has been generally named and distributed by collectors as *antiacis* or *polypheumus*, but as Dr. McDunnough has shown in his careful studies of Boisduval's types these names cannot hold, but are applicable to species or forms of the San Francisco Bay region. It is figured on Plate XXIX, 367, b., c., of Wright's Butterflies of the West Coast, as *antiacis*. *Australis* is very variable, much more so than *behri*, and is evidently in a comparatively rapid process of species change or formation from the probable original form of the San Francisco region with large, distinct, round, black spots, known as *behri*. The spots on the under side of the fore wing of *australis* (type) are large but run together as compared with *behri*, and with white rings; while those on the hind wing are much smaller. A surprisingly large number of specimens taken in the region of

australis show a disappearance or an approaching disappearance of the black spots, leaving only indistinct white spots in their places, or with a small, black dot in the centre. The black spots of *australis* are, also, more irregular in outline than the more circular ones of *behri*. *Behri* is much less variable.

Type.—One ♂ from Pasadena, May 20, 1907, by the writer and in his collection. Topotypes will be deposited in the Barnes' collection.

Distribution.—From Santa Barbara (extending north to Monterey County) to San Diego west of the mountains. This distinct faunal area is known as the San Diegan Faunal District. It occurs from February to June.

GEOMETRID NOTES.

A NEW SPECIES OF EUCHLÆNA.

BY L. W. SWETT, BOSTON, MASS.

Euchlæna albertanensis, sp. nov.

Expanse 45 mm. Palpi, head, thorax and abdomen pale yellow ashen, primaries of the same colour. Base of primaries to basal line darker than central portion, striated with fuscous. Basal line reddish brown, making an outward curve to median vein, then running straight to inner margin. Central part paler than rest of wings, finely striated and with small, black, discal spot. Extra discal line brownish, making an outward angle below costa, then running straight to vein 3, where there is slight inward curve to inner margin. There is a faint line bordering extradiscal, which separates from it at costa and inner margin. Outer margin darker, as is base, with pale apical streak and black spot at the end, almost opposite angle of extradiscal line. Fringe pale yellow, outer margin somewhat extended at vein 5. Secondaries same colour as primaries, only basal portion is lighter yellow. A broad, suffused, brown basal band, discal space very pale yellow and containing round, black, discal spot. Extradiscal line crosses wing at almost right angles, hardly curved. The outer brown shade line makes a projecting blunt jointed loop below discal spot. Beyond extradiscal line the wing is darker than in the centre of the wing. The fringe is the same colour as on the primaries, but there are two deep notches near veins 5 and 6. Beneath primaries

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marked as above but not darker in basal and marginal area. Secondaries marked as above, pale yellow, with striations.

This species appears to be close to *pectinaria* Denis and Schiffermüller and its synonym *deductaria* Walker, which may be a good species and not the same as *pectinaria*. In the copies of Denis and Schiffermüller's work in the Boston Society of Natural History, I can find no figure or any description and it seems as if there may be an incorrect reference, so that *deductaria* Walker will, at least, represent an Eastern form. This species, *alberta-nensis*, is apparently not common, as Mr. Wolley-Dod, from whom I received the type, stated he had seen but few. Since then I have received other specimens from Mr. Bowman and Mr. Mackie, of Alberta.

Holotype.—♂, May 31, 1912, Calgary, Alberta, from Mr. Wolley-Dod, and in my collection.

Allotype.—♀, June 16, 1916, Edmonton, Alberta, in Mr. Bowman's collection.

Paratypes.—Two ♂'s, Edmonton, Alberta, in Mr. Mackie's collection.

THE ANTHOMYID GENUS PHYLLOGASTER.— ADDENDUM.

Since sending my paper on the Genus Phyllogaster to the press* I have read C. W. Johnson's paper in the April number of the Canadian Entomologist, in which he describes a new species of this genus under the name *robustus*. An examination of paratypes of *robustus* discloses the fact that in addition to the difference in size between the species and *cordyluroides*, the male may readily be separated from the latter and also from *littoralis* by the presence of a large number of strong bristles on the basal dorsal segment of the hypopygium (two in the others) and the much larger pulvilli which exceed in length that of the apical tarsal joint, whereas in the others they are much shorter than it. The female of *robustus* has two thorns on apical abdominal segment, *littoralis* has four, the female of *cordyluroides* is unknown to me. As in *cordyluroides* the third vein of the wing is bare in *robustus*.

J. R. MALLOCH.

*Can. Ent. XLIX, July, 1917, p. 227.

AN ANNOTATED LIST OF THE SCOLYTID BEETLES OF OREGON.

BY W. J. CHAMBERLIN, OREGON EXPERIMENT STATION,
CORVALLIS, ORE.

(Continued from page 328.)

Phloeosinus dentatus Say.

A single specimen collected from *Chamæcyparis nootkatensis* at Elk Lake, Oregon.

Phloeosinus punctatus Lec.

This beetle was found doing considerable damage to the juniper (*Juniperus occidentalis*) in the vicinity of Bend and Prineville, in Central Oregon. Both male and female work, excavating a short gallery $1\frac{1}{4}$ to $1\frac{3}{4}$ inches long, running with the grain of the wood. Eggs are deposited in niches on each side of the gallery and are sealed in by a wall of frass. The young larvæ work out at more or less right angles to the egg gallery. Eggs, larvæ and pupæ were collected in early May at Bend. Completed egg galleries of the same species were found in Incense cedar (*Libocedrus decurrens*), on the Klamath Indian Reservation a month later. It has been taken from its galleries in Western red cedar (*Thuja plicata*), Alaska cedar (*Chamæcyparis nootkatensis*), and Port Orford cedar, (*Chamæcyparis lawsoniana*), in the western part of the State. It probably attacks all the trees of the juniper and cedar group. The cocoons of an unidentified hymenopterous parasite were found in the mines in juniper.

Phloeosinus cristatus Lec.

This species is rare; attacks Alaska Cedar (*Chamæcyparis nootkatensis*), Noble fir (*Abies nobilis*), and Engelmann Spruce (*Picea engelmanni*).

Phloeosinus sequoiæ Hopk.

Occurs in *Thuja plicata* and *Sequoia sempervirens* in the southwestern portion of the State.

Pseudohylesinus nebulosus Lec.

The adults of this species emerge in March in the Willamette Valley. After emergence, no time is lost in attacking a new host. Douglas Fir is their principle host tree and living, dying or felled trees, especially in the sapling and pole stages are favourites. When

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such timber is not available the limbs of larger trees are selected. The female starts the gallery and is soon followed by the male. The entrance gallery is at an oblique angle, and upon reaching the cambium a gallery is run parallel to the grain by the female. The male works in the opposite direction. The eggs are deposited in little niches chewed out by the female. The eggs hatch in 5 to 7 days and the larvæ work out at more or less right angles. Pupation takes place in the bark. The parent adults die in the mine after the eggs are deposited. In most cases the male is found blocking the entrance with his dead body, and the body of the female is found at the far end of the gallery. Observed in both Eastern and Western Oregon.

Pseudohylesinus nobilis Swaine.

This species was found entering the thick, flinty bark near the base of large, living *Abies nobilis* in the Cascade Mountains in August, 1914.

Pseudohylesinus laticollis Swaine.

Found with the above species on *Abies nobilis* and later taken from *Abies lasiocarpa*.

Pseudohylesinus, n. sp.

A very large specimen taken in the act of boring into Lebanon Cedar (*Cedrus libani*), on the College grounds.

Pseudohylesinus undescribed species allied to *nebulosus* Lec.

A number of specimens in the collection taken at Elkton, Oregon. February 16, 1896. No host given.

Pseudohylesinus griseus Swaine.

This species is less common than *P. nebulosus*, but in habits, life history, etc., is very similar. Found attacking Douglas fir at Breitenbush Hotsprings in the Cascade Mountains in April.

Pseudohylesinus sericeus Mannh.

Very similar to last two. Bred in numbers from Douglas fir collected at Corvallis, Astoria, and Detroit, Oregon.

Pseudohylesinus sericeus var.

A species differing considerably in size and markings. It was bred from Douglas fir at Corvallis in August.

Pityophthorus pubipennis Lec.

Occurs abundantly in Ash (*Fraxinus oregana*) and Oak (*Quercus gerrryana*) in the western valleys.

Pityophthorus puncticollis Lec.

Occasionally met with in spruce (*Picea sitchensis*) and in *Pinus contorta*.

Pityoktaines jasperi Swaine.

I have two specimens of this insect as determined by Professor Swaine. One taken from *Abies grandis* and the other from *Abies lasiocarpa* near Sumpter, Oregon, July, 1914.

Procryphalus aceris Hopk.

Type taken from *Acer macrophyllum* at Albany, Oregon. April 28, 1899. Hopkins.

Tomicus (Hylastes) nigrinus Mannh.

Taken from Douglas fir at Corvallis, Ranier, Astoria and Svensen, Oregon.

Pityogenes carinulatus Lec.

A small species found girdling and killing twigs and small branches, $\frac{1}{8}$ to 1 inch in diameter. Occasionally larger limbs were found attacked. Living, dying and felled yellow pine (*Pinus ponderosa*) was found attacked at Bend, Oregon, in May. A rough circular chamber $\frac{1}{4}$ to $\frac{1}{2}$ inch in diameter is eaten out, from this radiate 5 to 8 egg galleries $\frac{1}{2}$ to $1\frac{1}{2}$ inches long. The eggs are pearly white, slightly less than 1 mm. long, oval, buried in the frass. Adults, young larvæ and eggs were collected May 19, 1916.

Pityophthorus confusus Lec.

Swaine (N. Y. S. Mus. Bul. 134) gives the range of this species as transcontinental and gives Washington and California, so the species undoubtedly occurs in Oregon, though I have never collected it.

Pityophthorus confertus Swaine.

Bred from pine cones collected at West Port, Oregon. Cones collected August 20, and adults emerged September 11.

Pityophthorus nitidulus Mannh.

A widely distributed species which is found in dying *Pinus*, *Picea* and *Pseudotsuga*, throughout the State.

Pityophthorus, n. sp.

A species similar to *nitidulus* but larger and darker has been collected a number of times from *Abies grandis* and *Abies nobilis*; from the former tree in the valleys, from *nobilis* in the Cascades.

Trypodendron (Xyloterus) lineatus Oliver.

The true *lineatus* seems to be very rare, though a closely allied species is common. I have what I believe to be the true species from Seaside, Oregon. They were picked up on the beach during a storm in December, 1916.

Trypodendron (Xyloterus) politus Say.

There is a single specimen in the College collection bearing the label "Huntington, Oregon." Probably erroneously labeled. *Trypodendron rufilarsis* Kirby.

A number of specimens collected from *Pinus contorta*, near Sumpter, Oregon, July 14, 1914.

Trypodendron, n. sp., near *rufilarsis*.

Collected from living Douglas fir at Breitenbush Hot Springs, April and August, 1914.

Xyleborus dispar Fabr.

In orchard trees; Portland, Salem, Corvallis, Oregon City, and Eugene; April to June.

Xyleborus xylographus Say.

Specimens assigned to this species taken from Oak (*Quercus gerryana*) and Douglas Fir (*Pseudotsuga taxifolia*) at Corvallis. *Platypus wilsoni* Swaine.

Abies grandis, Corvallis; *A. nobilis*, Elk Lake; *Tsuga heterophylla*, Detroit, and *Pseudotsuga taxifolia* at Corvallis and Ranier.

Editor's note.—Mr. J. M. Swaine has informed me that *Ips wieslanderi* Swaine, which was listed in the first part of Mr. Chamberlin's paper (p. 327) is an old manuscript name for the species described as *Ips radiata* Hopkins.

Leperisinus atuleatus Lec. (p. 328) and *Hylesinus aculeatus* Say, (p. 326), are synonymous, and should be listed under the latter name.

A NEW WEST INDIAN CHALCID-FLY.

BY A. A. GIRAULT, GLENDALE, MD.

***Achrysocharella albitibiae*, n. sp.**

Female.—Length 1.50 mm.

Dark metallic green, the scape, tibiae, knees and tarsi white. Scape compressed. Funicle 2 subequal to club 3; terminal spine

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of club subequal to club 3. Head and thorax scaly punctate, the propodeum subglabrous, also segment 2 of abdomen; rest of abdomen delicately scaly. Wings hyaline, the venation pallid yellow. Mandibles bidentate. Antennæ with two distinct ring-joints, two funicle-joints and three club-joints, the latter with a long terminal spine and the region tapering. Stigmal vein subsessile, half the length of the postmarginal, the marginal over half longer than the submarginal. Hind tibial spur short and stout. Funicle 2 quadrate, 1 somewhat longer than wide, shorter than the long pedicel. Segment 2 of abdomen occupying about a sixth of the abdomen. Propodeum noncarinate. Axillæ somewhat advanced. Parapsidal furrows slightly indicated from cephalad, subobsolete, a straight, oblique groove laterad of the spiracle. Abdomen sessile.

From a single female on a tag in the U. S. National Museum, labeled "*Nesomyia albipes* Ashmead, 242. Leeward side, St. Vincent, W. I., H. H. Smith."

Type.—Catalogue No. 20349, U. S. Nat. Museum, the specimen on a tag and a slide.

This does not appear to be the genotype of *Nesomyia* Ashmead MS., since I describe elsewhere a second species similarly labeled and belonging more properly where Ashmead assigned the genus. None of the West Indian species of *Closterocerus* belong to that genus.

ON SOME NEW AND KNOWN MELANDRYIDÆ (COL.)

BY CHARLES SCHAEFFER, BROOKLYN, N. Y.

Carebara californica, new species.

Elongate, subdepressed, brown, antennæ, palpi, legs and underside paler. Head convex with moderate punctures; antennæ about as long as head and prothorax, third joint longer than second or fourth, fifth to tenth about as long as wide and nearly equal in size but shorter than fourth, eleventh elongate oval. Prothorax wider than long, apex a little narrower than base; sides rather feebly arcuate; basal and apical angles broadly rounded; basal margin feebly arcuate; surface moderately punctate; basal foveæ feeble. Elytra about two and one-half times as long as

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prothorax and not wider than the latter at base; sides feebly diverging, nearly parallel; apex broadly rounded; surface with slightly finer punctures than those on the prothorax. Under side punctured nearly like the upper side. Length 4.25 mm. Fresno Co., Cal.

This species differs from *longula* in the shape of prothorax and differently formed antennal joints. The sides of prothorax in *longula* are almost parallel, the fourth antennal joint triangular and the outer joints are wider than long; the upper surface is also more depressed in *longula* than in *californica*. *Carebara longula* was described from the Middle States and specimens taken in this neighbourhood at Wyandanch, Long Island, and Jamesbourg and Lakehurst, N. J., agree better with the description of that species than my California specimens, some of which I received from Ricksecker as *C. longula*.

Hallomenus binotatus Quens.

I have a specimen from Montreal, Canada, given me by Mr. Chas. Liebeck which agrees closely with the description of this European species. Mr. Liebeck writes me that he has received several specimens of the same species from the above mentioned locality taken at different times.

It is similar in form, size and antennal structure to *scapularis*, the colour brownish-yellow and the prothorax with two black longitudinal lines. The elytra are obsoletely striate, the prothorax more finely granulate and the basal margin more distinctly sinuate than in *scapularis*.

Scaptia oculata, new species.

Very much like *sericea* but a little more elongate, punctuation of upper surface almost the same as in that species; the second and third joints of antennæ are smaller and together not as long as the fourth joint in the male, in the female the second and third joints together are equal or nearly so to the fourth joint. The eyes are larger and separated on the front by a much smaller space than in *sericea*. The last ventral segment of the male is deeply, longitudinally impressed at middle and at apex triangularly emarginate. Length, male type, 5 mm. Huachuca Mts., Arizona.

***Allopoda lutea* Hald.**

Hallomenus fuscotuturalis Blatchl. Can. Ent. XLV, 24.

Specimens received from Prof. Blatchley of his *Hallomenus fuscotuturalis* are the same as our common *Allopoda lutea*.

***Allopoda arizonica*, new species.**

Form of *lutea* but generally of a darker and uniform colour. Head moderately coarsely punctate, punctures more closely placed than in *lutea*, eyes rather large; antennae rather longer than in *lutea*. Prothorax transverse, sides arcuately narrowing from the narrowly rounded hind angles to a little before apex and then more strongly rounded to apex; surface more closely punctate than in *lutea*. Elytra slightly wider at base than the prothorax; apices separately rounded; surface a little more closely and finely punctate than in *lutea*. Length 4 mm. Huachuca Mts., Arizona.

This species differs from *lutea* in the denser pubescence and punctuation, shorter and more transverse prothorax and relatively longer antennal joints.

***Allopoda californica*, new species.**

Narrowly elongate, rather sparsely pubescent, colour fusco-testaceous, first two joints of antennae, palpi, legs and under side paler. Head moderately closely punctate; antennae longer than the head and prothorax together, third joint not quite twice as long as second, fourth a little longer than third. Prothorax transverse, sides nearly parallel in about basal third, then rather strongly, arcuately narrowing to apex; hind angles feebly rounded; basal margin trisinate, the median sinuation stronger than on each side of middle; basal foveae distinct; surface rather finely punctured. Elytra about three times as long as the prothorax; sides feebly arcuate; apex broadly rounded; surface rather finely and moderately closely punctate. Length 4.5 mm. Tulare Co., Cal.

The type and only specimen seen is a female in the collection of the late Ottomar Dietz. It differs from *arizonica* and *lutea* in slightly larger size more elongate form, base of prothorax more distinctly trisinate and especially in the form of maxillary palpi, which are in *californica* elongate, cultriform, as in *Canifa* but it

differs from species of that genus by the very small, somewhat triangular, labial palpi and the simple, not lobed, penultimate joint of hind tarsi. It is possible that a new genus has to be erected for this species as the genera of the tribe Scaptiini are separated by the form of the last joint of maxillary palpi and the form of the penultimate joint of hind tarsi; which are lobed in *Scaptia* and *Canifa* but simple in *Allopoda* and the Central American *Evalces*.

SPECIES OF THE GENUS BRACHYOPA OF THE EASTERN UNITED STATES (DIPTERA).

BY CHARLES W. JOHNSON, BOSTON, MASS.

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Arista conspicuously pubescent, species yellow...*notata* O. S.
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3. Dark brown, three thoracic lines, second abdominal
segment light yellow, somewhat translucent...*vacua* O. S.
Light brown and yellow.....4
4. Thorax, dorsum brown, with four black lines,
6-7 mm.....*media* Will.
Thorax, dorsum yellow, with four brown lines,
5 mm.....*flavescens* Shan.
5. Thorax, dorsum grayish pollinose with five black
lines, abdomen entirely black.....*daeckeii*, sp. n.
Thorax, dorsum grayish pollinose with four black
lines and short diverse lines, abdomen black,
marked with grayish pollen.....*diversa*, sp. n.

Brachyopa daeckeii, sp. n.

Front black, grayish pollinose, a shining spot above the base of the antennæ yellow, bordered with black, face below the antennæ grayish pollinose, sides shining, yellow with two spots of black, antennæ dark yellow, arista brown. Thorax black, grayish pollinose, with five subshining lines, the three inner ones slightly diverging but not reaching the scutellum, pleura brownish grayish pollinose, scutellum brown, the apical half much lighter than the

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base. Abdomen black, shining, hairs white. Legs brown, hairs white, outer half of the posterior femora blackish, tarsi yellowish, halteres yellow. Wings hyaline, veins brown, stigma yellow, anterior cross-vein slightly clouded with brown, tegulae white. Length 6 mm.

One specimen, Castle Rock, Delaware Co., Pa., May 19, 1902, collected by Mr. V. A. E. Daecke. Type in the author's collection. This specimen has been referred to as a dark variety of *B. media* (Psyche, Vol. XVII, p. 230, 1910) but further study in connection with the following species convinces me that it is distinct. The thoracic lines and abdominal characters seem very constant in this genus.

***Brachyopa diversa*, sp. n.**

Face and front yellowish, whitish pollinose, a shining spot above the antennae and a shining brown streak across the cheek, occiput black, grayish pollinose, finely punctate, antennae dark yellow, arista black. Thorax black, brownish pollinose, with four shining black lines and short diverse lines, the two dorsal lines not reaching the scutellum, but a short median line extending forward from the scutellum, the subdorsal line interrupted by a prominent sutural line, short oblique lines extending anteriorly from the posterior ends of the subdorsal lines towards the ends of the dorsal lines, humeri and a large spot above the base of the wing shining black, pleura grayish pollinose with white hairs, scutellum dark brown. Abdomen: first segment grayish pollinose, second segment grayish pollinose except a median and large, round lateral spots of shining black, third and fourth segments shining black, excepting the posterior pollinose margins. Legs black, bases and tips of the femora and tibiae, and the tips of all of the first three tarsal joints yellowish. Halteres white, wings hyaline, veins brown, stigma yellow, anterior cross-vein and the angles of the discal cell clouded with brown, false vein prominent, extending to the end of the discal cell, apical portion of the fourth vein with two stubs, one at the obtuse angle, the other slightly anterior and extending into the first posterior cell, a stub also extending into the discal cell, tegulae white. Length 7 mm.

One specimen near Shattuck Inn, Jaffrey, N.H., June 18, 1917,

on the flowers of the choke cherry. Type in the collection of the Boston Society of Natural History.

Brachyopa flavescens Shannon.

B. flavescens Shannon, Insecutor Inscitiæ Menstruus, Vol. III, p. 144, 1915.

This species is closely related to *B. media* from which it can be separated only by its somewhat smaller size and lighter coloured thorax. In some specimens the anterior portion of the thorax is dark brown, strongly suggesting that it may prove to be only a variety of *B. media*.

Specimens agreeing with those from the type locality, Dead Run, Va., have been collected on the summit of Mt. Greylock, Mass., June 15, 1906, Bretton Woods, N.H., June 26, 1913, and near the Glen House, base of Mt. Washington, N.H., June 14, 1916.

Brachyopa media Williston.

This widely distributed species varies considerably both in size and colour. In some specimens the legs are quite dark and the abdomen has a distinct median line. It has been collected at Bretton Woods, N.H., June 24; Glen House, N.H., June 14 and June 15, Jaffrey, N.H., June 21, 1917, and Sherborn, Mass.

BOOK NOTICES.

GUIDE TO THE INSECTS OF CONNECTICUT, PART III. The Hymenoptera or Wasp-like Insects of Connecticut. Bulletin No. 22, Connecticut Geological and Natural History Survey. By Henry Lorenz Viereck, with the collaboration of A. D. MacGillivray, C. T. Brues, W. M. Wheeler and S. A. Rohwer. 824 pp., 10 plates. Hartford, 1916. \$1.50.

This is the first attempt to present a complete systematic treatise of the Hymenoptera of any state of the Union and the State Entomologist, Dr. Britton, under whose direction the work was undertaken, as well as the various authors, deserve the thanks of the entomological public throughout North America for the admirable manner in which their work has been accomplished.

In the Introduction, by Mr. Viereck, the general characters of the order Hymenoptera are set forth and the economic significance of the various groups is discussed. The various superfamilies

are then taken up in order, each being defined and the taxonomic characters illustrated by outline figures of a typical species. Full keys are given to the families, subfamilies and genera, and in the great majority of cases also to the species, which in any case, are fully characterized. Lists of localities are given for each species, with the names of the collectors, and the names are also included of species not yet recorded from Connecticut but likely to occur there. The same general plan of treatment has been followed by the various authors though their methods differ slightly in detail.

The chief author, Mr. Viereck, is responsible for the Ichneumonoidea, Cynipoidea, Chalcidoidea, Chrysidoidea, Apoidea and part of the Vespoidea; the Tenthredinoidea are by Prof. MacGillivray, the Serphoidea and Proctotrypoidea by Mr. Brues, the Formicoidea by Prof. Wheeler, and the Sphecoidea and greater part of the Vespoidea by Mr. Rohwer.

Besides the text figures there are ten good half-tone plates from photographs, on which are illustrated typical examples of the order, including representatives of most of the superfamilies; and also various types of Hymenopterous larvæ, cocoons, nests, galls, etc.

This is a book which should be in every entomological library and will be as indispensable to the general student as Blatchley's Coleoptera of Indiana.

THE BLATTIDAE OF NORTH AMERICA, NORTH OF THE MEXICAN BOUNDARY. By Morgan, Hebard. Memoirs of the American Entomological Society, Number 2. Published by the American Entomological Society at the Academy of Natural Sciences, Philadelphia, 1917. 284+vi pp., 10 plates.

Students of Orthopteroid insects will all welcome the appearance of this masterly revision of a difficult and perplexing group. While a good many papers on the North American Blattidæ, or Cockroaches, have been published within recent years, we have now for the first time a comprehensive review of the entire subject from the systematic standpoint. It is in fact far more than a review, for important new characters have been brought to light, and no less than five new genera and eight new species are described. A fifth new generic name, *Parcoblatta*. (= *Platamodes* Scudder,

preoccupied), is introduced to include nearly all of the native species commonly placed in *Ischnoptera*, this genus together with *Blattella* having been found to contain many valid generic units. Only one true *Ischnoptera*, *I. deropeltiformis* (Brunner), belongs to the North American fauna, while the only species of *Blattella* represented in the New World is the introduced and cosmopolitan genotype, *B. germanica* (L).

A valuable feature of the work is the careful definition of the characters of diagnostic value, including the methods of measurement. The venational terminology, which is illustrated by a diagram of a typical blattid tegmen and wing, is that which has been commonly employed by orthopterists, but in the present writer's opinion it is somewhat to be regretted that the more generally applicable system of Comstock and Needham was not substituted.

Although detailed descriptions of genera and species have been avoided, the characters of real importance have been carefully analyzed and much attention has been given to coloration and to the range of variation in each species. The geographical distribution is also treated in great detail, the exact localities with other available data being given for all the material studied.

Forty-three species are recorded as established within the United States and of these ten are probably introduced. Species are numerous only in the limited tropical areas along the southern border of the country, rapidly diminishing northward, there being only two indigenous forms and two established adventives which are known to occur north of the Canadian boundary.

Following the descriptive account of the Blattidæ that are native or naturalized within the territory under treatment is a supplement dealing more briefly with the adventive forms, tropical cockroaches being frequently carried by commerce to more northerly localities, where they usually fail to become established. There are thirty-one species in this category, eight of which are also native in southern portions of the United States.

The extensive series of illustrations are beautifully executed drawings, which leave nothing to be desired.

Mailed October 1st, 1917.

